



## Golf Course Preliminary Assessment/Site Inspection and Consensus Letters

**URS**

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January 28, 2010  
Restoration Advisory Board Meeting

Fort George G. Meade, MD



## Project Description

- Collect information necessary to decide which of the following actions are warranted at the site:
  - No Further Action Determination
  - Remedial Investigation/Feasibility Study (RI/FS)
  - Interim Response (Removal Action)
  - Decision Document
  - Record of Decision
- Consensus Letters Goals
  - Present information necessary to decide which of the following actions are warranted at the site:
    - No Further Action Determination
    - Preliminary Assessment/Site Inspection





## PA/SI Consensus Letters Overview



- Preliminary Assessment/Site Investigation (PA/SI)
  - Assess the status of 123 areas of interest (AOI)
  - Collect additional data to determine if the site can be closed or carried further in the CERCLA process
    - No Further Action (Consensus Letter Site)
    - Further Field Investigation (PA/SI Site)

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## How Were Sites Identified?



- Site Management Plan (SMP)
  - Comprehensive review of the restoration and military munitions programs - completed November 2009
- SMP identified 30 open sites
  - 26 Restoration sites
  - 4 Military Munitions Response Sites
- FGGM-95 (Operable Unit (OU)-45) and FGGM-96 (OU-46)
  - 103 AOIs: primarily solid waste management units (SWMUs)
  - Includes Golf Course Sites

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## The Partnership Process

- Included representatives from the US Environmental Protection Agency (EPA), Maryland Department of the Environment
- Evaluated the data for most of the SWMUs and determined a path forward: no further action or to continue investigating the AOI.
- And other stakeholders concluded no further action was warranted for over 100 AOIs.
- SMP EPA conclusion
  - Additional evaluations warranted for all AOIs (FGGMs 95 and 96)

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## Evaluation Process (Golf Course Sites)

- Evaluation process for AOIs on the Golf Course
  - Advanced to avoid impacting the proposed redevelopment of the Golf Course.

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## Golf Course Sites



- Site M Parcel 1
- Site M Parcel 2
- Site M Parcel 3 (includes Golf Course Maintenance Facility Buildings 8860, 8870, 8880, 8881, 8890, 8890A, 8891)
- Site M Parcel 4
- Site M Parcel 5
- Site M Parcel 6
- Site M Parcel 7
- Site M Parcel 8
- Site M Parcel 9
- Buildings 6800/6865 – Former Wash Rack System for Golf Course

Golf Course Sites in RI/FS Process:

- FGGM-003-R-01 (OU-40) – Mortar Range – A Military Munitions Response Program (MMRP) site that covers part of Parcels



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## Evaluation Process



- Review existing documentation (data available)
  - Level of existing documentation is principle determining factor in establishing the next phase of work in re-evaluating the AOIs.
- If previous environmental data is available
  - Desktop Review with Risk Analysis
- If no previous environmental data exists
  - Field Sampling Activities then Risk Analysis
- If no additional evaluations are warranted after the risk analysis
  - Consensus Letter (No Further Action Recommendation)

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## Risk-Based Screening Process



### Objectives

- Identify chemicals of potential concern (COPCs) for each media (soils and/or groundwater).
- Provide quantitative results to support risk-based management decisions:
  - No Further Action Determination
  - Preliminary Assessment/Site Inspection
- Protect potential human receptors (current and future) from adverse health effects.

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## Risk-Based Screening Process (Continued)



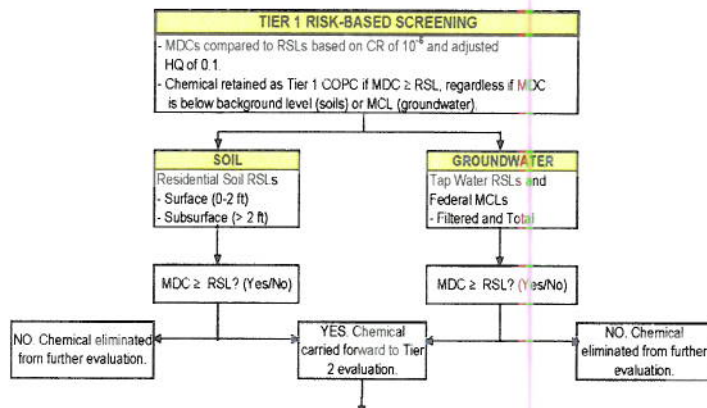
### TIER 1 – GENERIC SCREENING

- Compare Maximum Detected Concentrations with Residential Levels.
- Use EPA Regional Screening Levels (RSLs) that are Based upon Cancer Risk of  $10^{-6}$  and Hazard Quotient (HQ) of 0.1.
- Screen Media Separately:
  - Surface soil (0-2 feet),
  - Subsurface soil (>2 feet),
  - Total (unfiltered) Groundwater
  - Filtered Groundwater (if available).

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## Risk-Based Screening Process (Continued)



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## Risk-Based Screening Process (Continued)



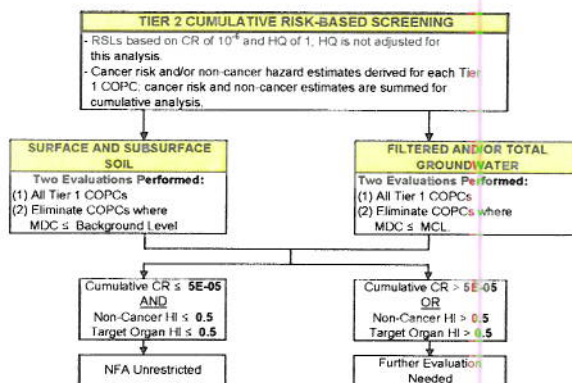
### TIER 2 – CUMULATIVE RISK-BASED SCREENING

- Evaluate Tier 1 COPCs Only for Each Media.
- Use Same RSLs as Tier 1, Except HQ is 1.
- Derive Cancer Risk and/or Non-Cancer Hazard Estimates.
- Sum Estimates to provide Cumulative Results.
- Compare Cumulative Results with EPA Thresholds:
  - Cumulative Cancer Risk:  $5 \times 10^{-5}$
  - Cumulative Non-Cancer Hazard: 0.5

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## Risk-Based Screening Process (Continued)



**TERMS:**

COPC: Chemical of Potential Concern  
CR: Cancer Risk  
HI: Hazard Index  
HQ: Hazard Quotient

MCL: Maximum Contaminant Level  
MDC: Maximum Detected Concentration  
NFA: No Further Action  
RSL: Regional Screening Level

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## Risk-Based Screening Process (Continued)



### TIER 2 – CUMULATIVE RISK-BASED SCREENING (Cont)

Perform Additional Screen for Soils and Groundwater.

#### SOILS:

- Remove Tier 2 COPC if Maximum Detected Concentration is below Background Level.
- Keep Tier 2 COPC if No Background Level is Available.

#### GROUNDWATER:

- Remove Tier 2 COPC if Maximum Detected Concentration is Below Federal Maximum Contaminant Level (MCL).
- Keep Tier 2 COPC if No MCL is Available.

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## Risk-Based Screening Summary



### Tier 1 and Tier 2

- Tier 1 Identifies Any Primary Risk Drivers
- Tier 2 Quantifies Residential Exposure
  - Protect Human Health
  - Provide Stakeholders with Data to Make Risk-Based Management Decision
    - No Further Action Determination
    - Preliminary Assessment/Site Inspection

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## Golf Course Sites Schedules



- Complete all field work and lab analysis for sites located on the Golf Course - 2<sup>nd</sup> Quarter FY10
- Complete all consensus letters for NFA sites for sites located on the Golf Course by 2<sup>nd</sup> Quarter FY10
- Complete Work Plan for remaining PA/SI sites by 2<sup>nd</sup> Quarter FY10
- Document review period
- Identify follow up tasks and due dates

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## Backup Slides



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## Points of Contact



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## Acronyms



• CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
• CHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
• DD	Decision Document
• EBS	Environmental Baseline Survey
• ED	Environmental Division
• EPA	U.S. Environmental Protection Agency
• FFA	Federal Facilities Agreement
• FGGM	Fort George G. Meade, MD
• MDE	State of Maryland Department of the Environment
• mg/kg	milligram/kilogram
• mg/L	milligram/liter
• µg/L	microgram /liter
• MMRP	Military Munitions Response Program
• NFA	No Further Action
• NSA	National Security Agency
• PA/SI	Preliminary Assessment/Site Inspection
• RI/FS	Remedial Investigation/Feasibility Study
• ROD	Record of Decision
• SMP	Site Management Plan
• UAO	Unilateral Administrative Order
• USACE	U.S. Army Corps of Engineers

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## Milestones



- Unilateral Administrative Order (UAO) - August 27, 2007
  - Notice of intent to comply – December 9, 2008
  - Site Management Plan (SMP) – March 6, 2009
  - Rescinded October 19, 2009
- Federal Facilities Agreement (FFA)
  - Signed June 19, 2009
    - USEPA
    - Army
    - Department of Interior
    - Architect of the Capitol
  - FFA effective date – October 6, 2009
  - Revised Final SMP – November 5, 2009

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## History of Partnering Meeting Sites



- 1996 SWMU Study: 154 SWMU's Identified
  - 1 SWMU recommended for no further action (SWMU 59, Building 2250 current Laundry, not the 1941 Laundry)
  - 100 SWMUs based on current conditions and 53 SWMUs based on past events were recommended for a Screening Site Inspection,
- 1998-1999 SWMU Sampling Visits: 153 SWMUs
- Site Investigation and Initial Delineation reports – further evaluate soil and groundwater SWMUs with elevated concentrations from the 153 sampling visits.
- 1999 Third Phase SWMU Sampling Visits: 49 SWMUs
- 2000 Additional Sampling Visits: 23 SWMUs
- 2003 RCRA and Data Gap Study: 21 SWMUs
  - 8 Data Gap Sites
  - 13 RCRA Sites

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